

AMINOCARBOXYLIC ACID BREAKER
COMPOSITIONS FOR FRACTURING FLUIDS

James B. Crews
304-27440-US Sheet 1/7

Fig. 1
Na4EDTA Break Tests
BoraFRAQ 30 At 150 F (66°C)

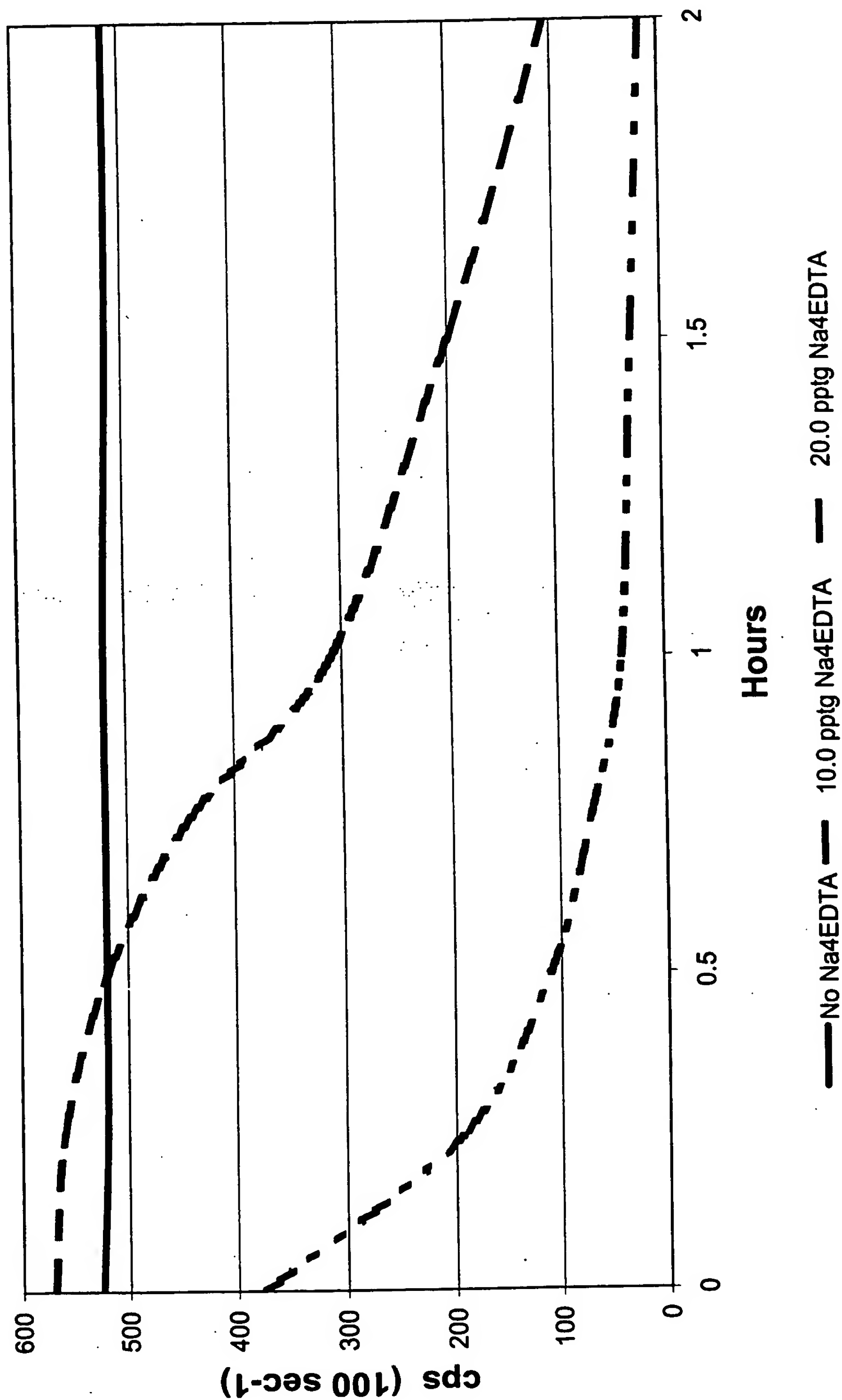
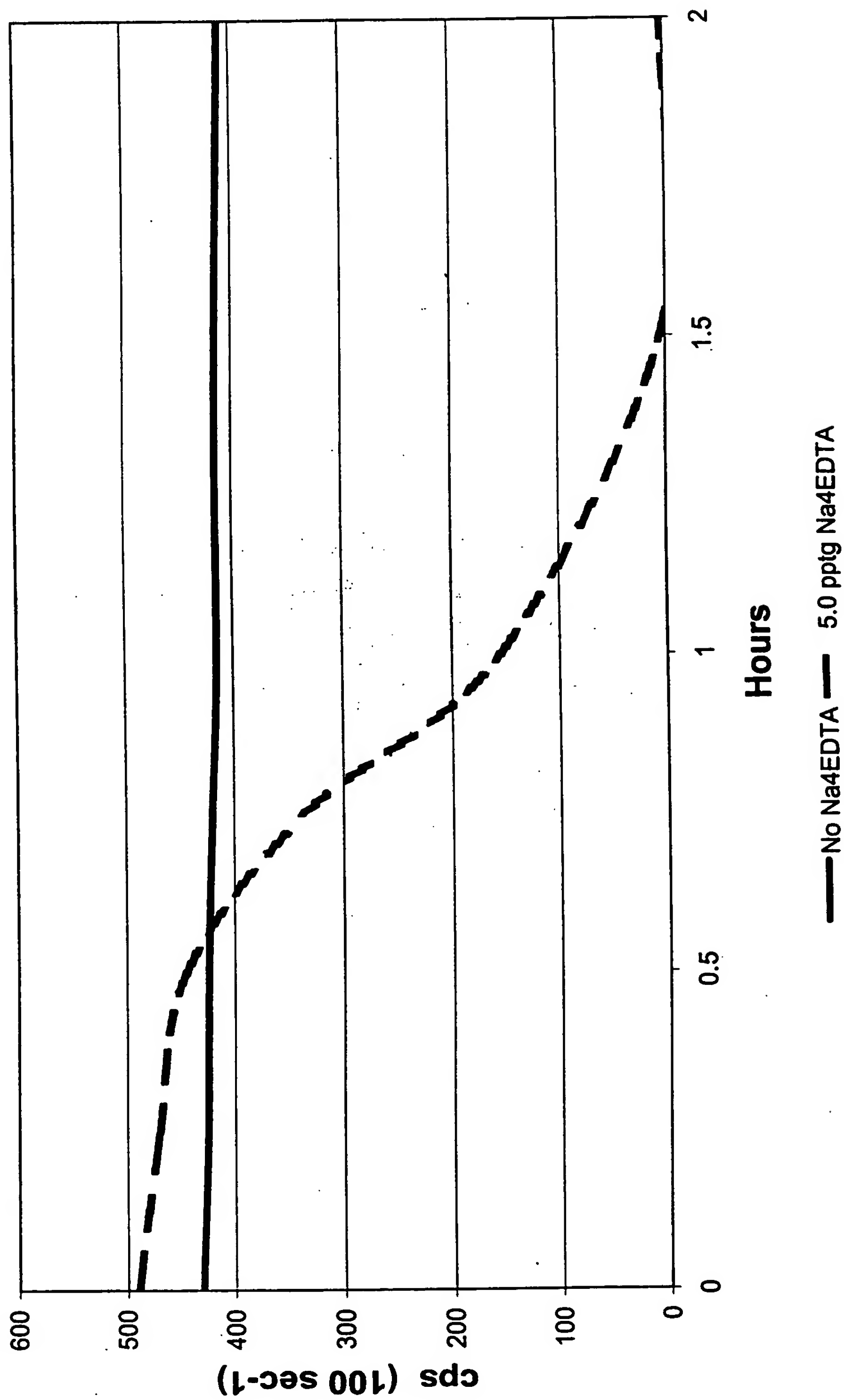


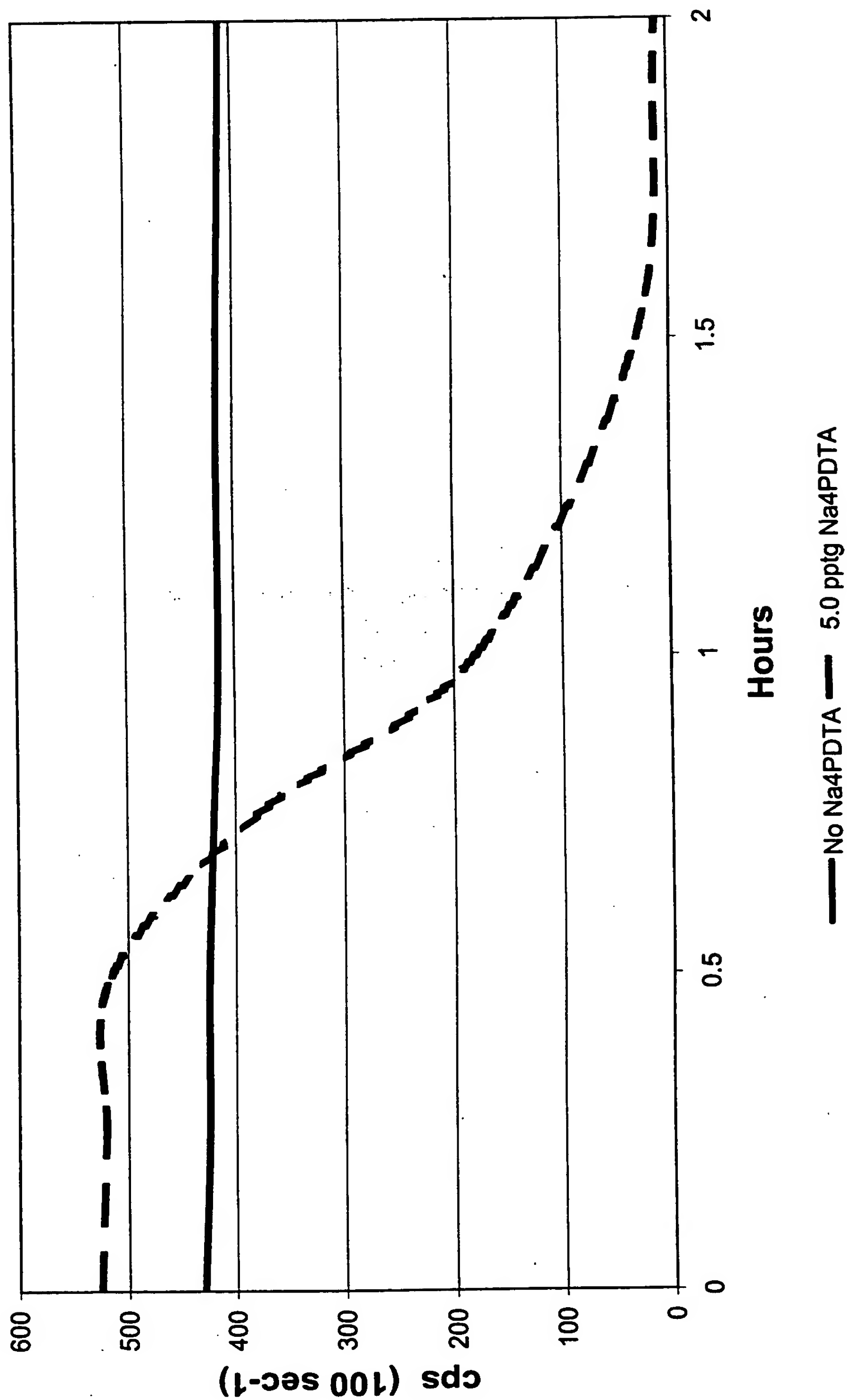
Fig. 2
Na4EDTA Break Tests
BoraFRAQ 30 At 175 F (79°C)



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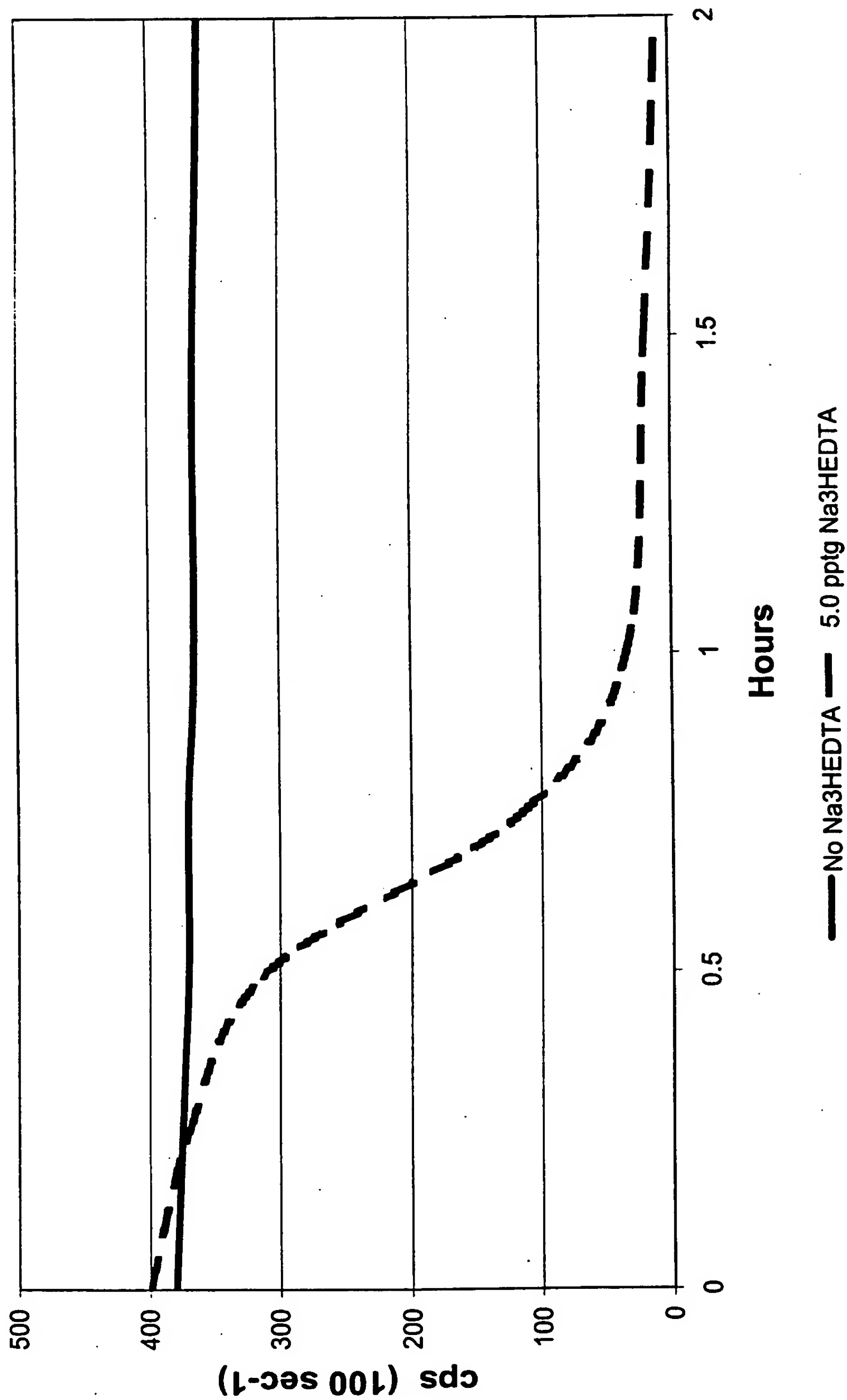
Fig. 3
Na4PDTA Break Tests
BoraFRAQ 30 At 175 F (79°C)



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Fig. 4
Na3HEDTA Break Tests
BoraFRAQ 30 At 220 F (104°C)



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Fig. 5
Na3NTA Break Tests
BoraFRAQ 30 At 250 F (121°C)

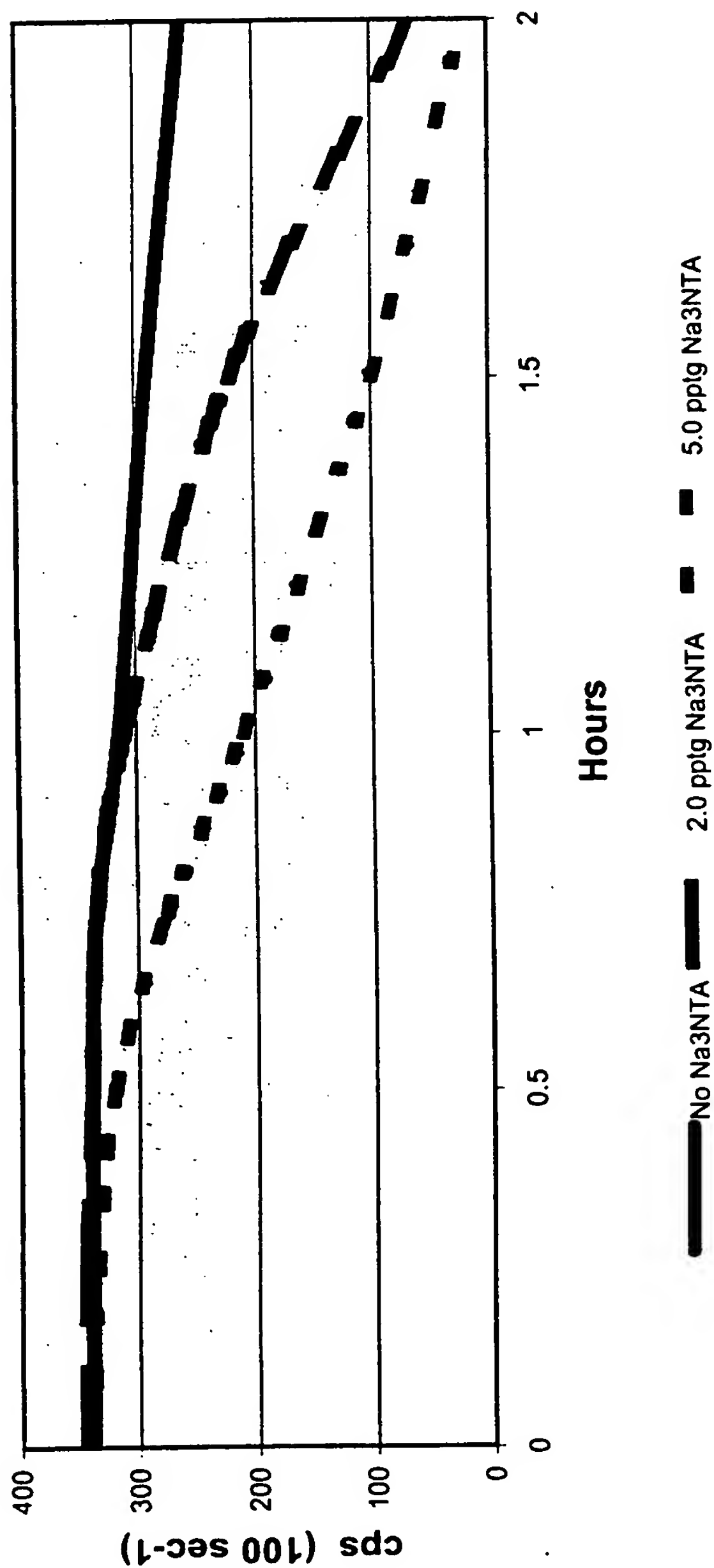


Fig. 6
Effects Of E39 Breaker
On 80 pptg Linear Guar (WG-1L) At 150 F (66 C)

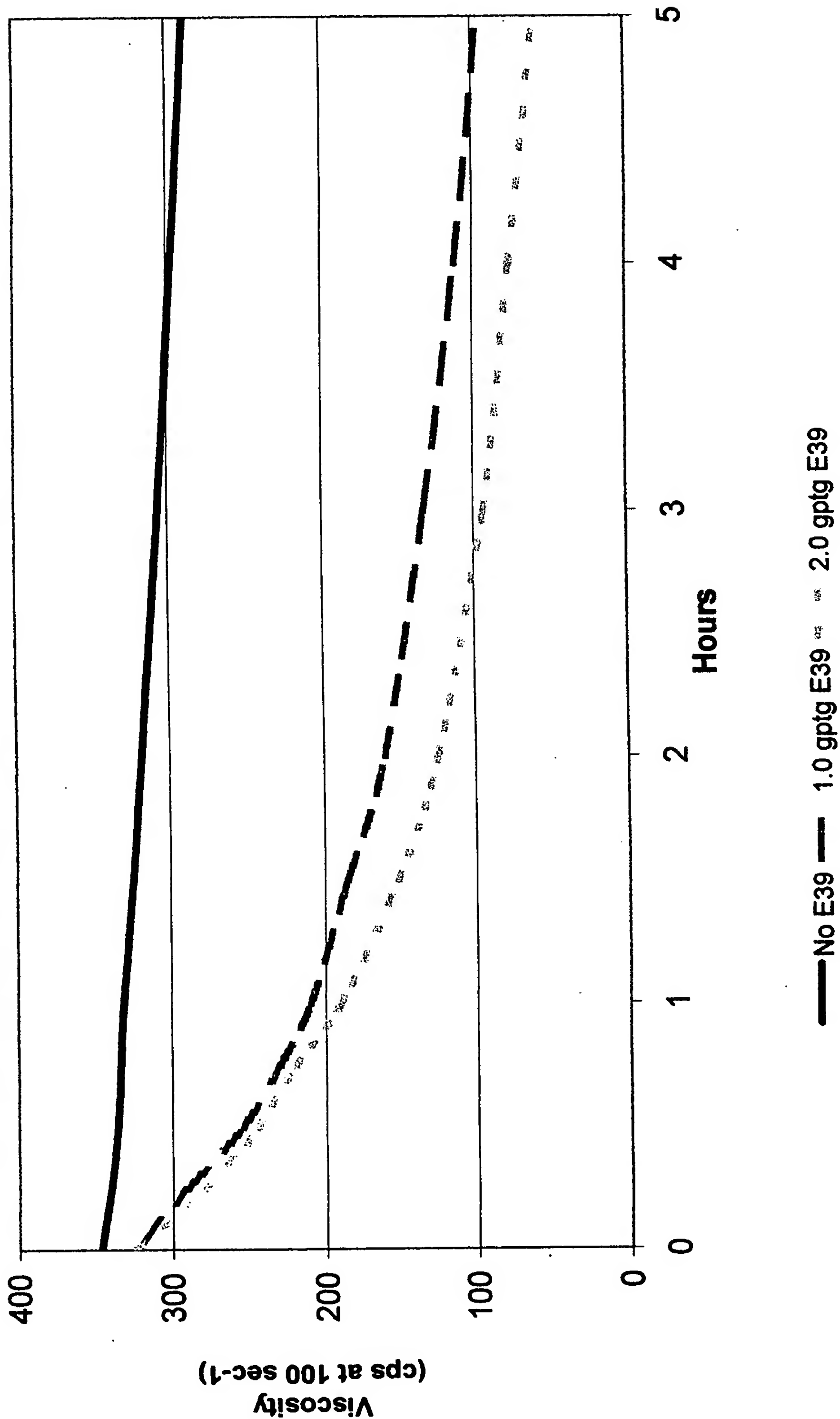
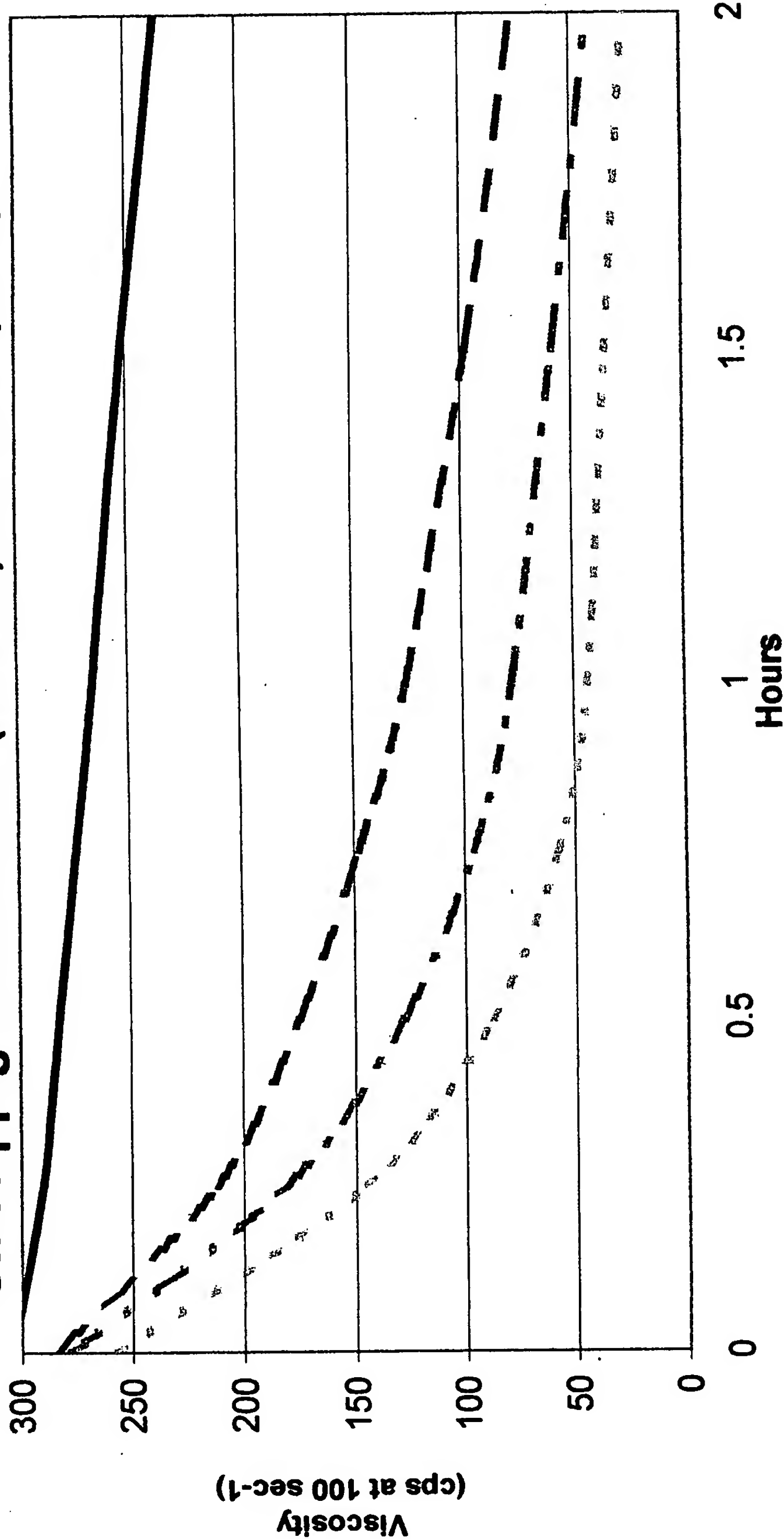


Fig. 7
Effects Of E39 Breaker
On 80 pptg Linear Guar (WG-1L) At 180 F (82 C)



— No E39 - - - 0.5 gptg E39 - . - 1.0 gptg E39 . . . 2.0 gptg E39